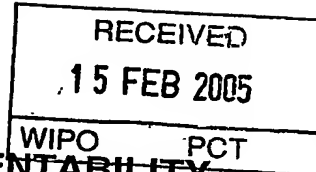



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 1112WOORD01		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/EP2004/050373		International filing date (day/month/year) 26.03.2004	Priority date (day/month/year) 27.03.2003	
International Patent Classification (IPC) or national classification and IPC C07J71/00, B01F1/00				
Applicant ALTANA PHARMA AG et al.				
<p>1. This report is the International preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 08.10.2004		Date of completion of this report 11.02.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Papathoma, S Telephone No. +49 89 2399-7536		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/050373

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-12 as originally filed

Claims, Numbers

1-27 as originally filed

Claims, Pages

13-16 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/050373

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	19-27
Inventive step (IS)	Yes: Claims	
	No: Claims	1-27
Industrial applicability (IA)	Yes: Claims	1-27
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: US-A-4 605 517 (RILEY DEREK C ET AL) 12 August 1986 (1986-08-12)
- D2: US-B-6 482 4381 (THEOPHILUS ANDREW ET AL) 19 November 2002 (2002-11-19)
- D3: WO 02/38584 A (BYK GULDEN LOMBERG CHEM FAB ; GUTTERER BEATE (DE)) 16 May 2002 (2002-05-16)
- D4: DE 196 35 498 A (BYK GULDEN LOMBERG CHEM FAB) 26 March 1998 (1998-03-26)
- D5: WO 01/00046 A (COGNIS DEUTSCHLAND GMBH ; SCHROEDER CHRISTINE (DE); DOLHAINE HANS (DE)) 4 January 2001 (2001-01-04)

1) Article 33(2) PCT

The application refers to a process for the preparation of crystalline ciclesonide with defined particle size.

a) Regarding the novelty of claims 1-18 although documents D1 and D2 pertain to a process for the preparation of crystalline particles of defined particle size no specific mention is made to ciclesonide. The same applies to document D5 which recites a process for the preparation of nanoscale sterols. Documents D4 and D3 in essence relate to a process for the synthesis and epimere-enrichment of ciclesonide respectively with no reference to particle size definition per se. The aforementioned claims are therefore considered to be novel under Article 33(2) PCT.

b) Claims 19-21 however relate to a compound obtainable from the steps of claim 1 of the present application. However, a product is not rendered novel, when prepared via a novel process. Thus, claims 19-21 are not novel over the ciclesonide of D3 or D4. By virtue of the same reasoning claims 25-27 suffer from the same deficiency.

c) In addition claims 22, 23 and 24 define the compound (ciclesonide) by way of parameters. The skilled person is left in doubt as to what falls under the scope of the claim. Such claim language is considered by this Authority to be unclear in the meaning of Article 6 PCT. By virtue of the same reasoning claims 16, 17 and 20 suffer from the same deficiency.

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

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2) Article 33(3) PCT

The Examining Division consider that D1 represents the closest prior art. D1 discloses a process for the preparation of particles of defined size for *inter alia* pharmaceutical compositions in particular steroids.

The alleged invention of the current application provides a method for the preparation of pharmaceutica of defined size whereby the pharmaceutical compound is ciclesonide.

The objective problem underlying the present application is thus "the provision of a further process for the preparation of a pharmaceutical compound of defined size".

According to the present application the solution to the above problem lies in a process whereby the ciclesonide is dissolved in a water-miscible solvent which is subsequently added to water. This leads to the isolation of ciclesonide owing to the fact that it is rendered crystalline. The particles thus produced are of a defined size.

However, such a process for the preparation of particles of defined size is known from document D1. D1 refers to compounds very similar in structure when compared to ciclesonide and produces particles of the claimed size. Furthermore, document D2 describes a process especially for the preparation of particles of therapeutically useful substances within size ranges suitable for inhalation therapy, an medicinal application also claimed by the present invention. When faced with the teachings of either D1 or D2 the skilled person would be prompted to crystallize ciclesonide without the use of inventive skill thus producing ciclesonide of defined size.

The subject matter of the present application does not therefore fulfill the requirements of Article 33(3) PCT

Re Item VII

Certain defects in the international application

Claim 9 referring to the temperature of the water should be dependent to claim 8 and not to claim 7.

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2004/050373

Re Item VIII

Certain observations on the international application

- 1) The wording "substantially" in claim 11 is objected under Article 6 PCT, as it is unclear the percentage of the R epimere meant.
- 2) Additionally to point V c), further clarity objections apply for the missing lower limit of the X_{50} in claims 16 and 21.
- 3) Claim 19 relates to a known compound, ciclesonide defined by reference to a desirable characteristic or property, namely "in inhalable form". The application however does not provide support within the meaning of Article 6 PCT and / or disclosure within the meaning of Article 5 PCT for such definition.